

Serial No. 10/014,189

Docket No. US010576 **RECEIVED**
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REMARKS/ARGUMENTS

The Office Action dated October 13, 2006 has been reviewed and carefully considered. Claims 1, 10, 16, 22 and 23 have been Amended. Claims 1-23 remain pending, the independent claims being claims 1, 10, 16, 22 and 23. Reconsideration of the above-identified application, as amended and in view of the following remarks, is respectfully requested.

Claims 1-23 stand rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. Applicant has amended each independent claim to recite that a recommendation is being provided to a user, as suggested by the Examiner (page 5, last paragraph of the Office Action). Applicant submits that these claims, as being directed to obtaining a useful, concrete and tangible result, now clearly comply with the requirements of 35 U.S.C. §101. Accordingly, Applicant respectfully requests that the 35 U.S.C. §101 rejections be withdrawn.

Claims 1, 10, 16 and 22-23 stand rejected under 35 U.S.C. §101 as claiming the same invention as that of claims 11, 27 and 28 of U.S. Patent No. 6,801,917. Applicant respectfully disagrees with, and explicitly traverses, the Examiner's reason for rejecting the claims.

As amended, each of claims 1, 10, 16, 22 and 23 recites a feature that a recommendation is provided to a user based at least in part on the determined clusters. Further, in determining the clusters, each of these claims requires that in at least one

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cluster, more than one mean is determined for a symbolic value (this feature is further discussed below with respect to the Office Action's prior art rejections). Claims 11, 27 and 28 of U.S. Patent No. 6,801,917 fail to recite these features. For at least this reason, the claims of the present invention are not coextensive in scope with the '917 patent. It is believed that the rejection under 35 U.S.C. §101 has been obviated, and its withdrawal is therefore respectfully requested.

Claims 1-23 stand rejected under 35 USC 103(a) as being unpatentable over Data et al., Symbolic Nearest Mean Classifiers (Hereinafter, "Datta") in view of Datta et al. Learning Symbolic Prototypes (Hereinafter "Datta/Kibler").

Applicant respectfully disagrees with, and explicitly traverses, the examiner's reason for rejecting the claims. A claimed invention is prima facie obvious when three basic criteria are met. First, there must be some suggestion or motivation, either in the reference themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings therein. Second, there must be a reasonable expectation of success. And, third, the prior art reference or combined references must teach or suggest all the claim limitations.

Claim 1, as amended, recites:

A method for providing a recommendation to a user, said method comprising:

partitioning a plurality of items into clusters of similar items, said plurality of items corresponding to a selection history by at least one third party, said

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partitioning step comprising identifying one or more mean items for a plurality of items, J , each of said items having at least one symbolic attribute, each of said symbolic attributes having at least one possible value;

wherein for each mean identified, a variance is computed of said plurality of items, J , for each of said possible symbolic values, x_{μ} , for each of said symbolic attributes; and for each of said symbolic attributes, at least one symbolic value, x_{μ} , that minimizes said variance as the mean symbolic value is selected;

wherein for at least one cluster, a given symbolic attribute has more than one value such that more than one mean symbolic value is determined for that symbolic attribute; and,

wherein said recommendation is based at least in part on said clusters.

A distinctive feature of the present invention, as defined by claim 1, is that “for at least one cluster, ... more than one mean symbolic value is determined for ... [a given] symbolic attribute.” Support for this feature that more than one mean value is derived for an attribute or feature of a cluster is found, inter alia, in paragraph 0052 of the published application: “a cluster may be represented by multiple means or multiple feature values for each possible feature.”

Datta teaches various algorithms associated with k-means clustering as a means of “finding groups of examples in the same class” (page 4, col. 2, second paragraph). In particular he teaches weighting, distance measures and determining the number of clusters, k . Datta notes at page 2, col. 2 that “the two main parameters to this [k-means clustering] algorithm are the distance metric for finding the closest cluster and k , the number of clusters to create.” In Datta a mean of a cluster is derived. However, Datta fails to teach or suggest the newly added feature of the present invention where “for at

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least one cluster, a given symbolic attribute has more than one value such that more than one mean symbolic value is determined for that symbolic attribute.”

The Office Action (page 9, last paragraph) cites Datta/Kibler as teaching this feature. Applicants respectfully disagree. The referenced passage of Datta/Kibler merely describes how the mean of a set of examples, S, is derived prior to its use in the classification scheme. In particular, a prototype vector for a set of examples is determined based on deriving means for each attribute of the set. Moreover, this vector is defined (at page 4, 1st paragraph of Datta/Kibler) to be:

$\langle A1_{\mu}, A2_{\mu}, \dots A_{n\mu} \rangle$ where A_i denotes the mean of the i th attribute.

Clearly, this definition teaches away from the present invention, as defined by claim 1, as only one mean exists for each attribute.

Having shown that the combined device resulting from the teachings of the cited references does not include all the elements of claim 1 of the present invention, and in fact teaches away from the present invention; applicants submits that the reasons for the examiner's rejections of claim 1 has been overcome and can no longer be sustained. Independent claims 10, 16, 22 and 23 contain features similar to claim 1 and are deemed patentable for the same reasons. Accordingly, Applicants respectfully request reconsideration, withdrawal of the rejection and allowance of claims 1, 10, 16, 22 and 23.

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Claims 2-9, 11-15, and 17-21 are dependent from one of the independent claims discussed above, and are believed allowable for at least the same reasons and any rejections thereof should be withdrawn.

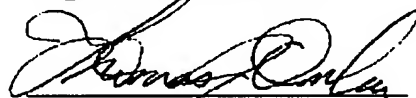
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CONCLUSION

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. A Notice of Allowance is respectfully requested.

Respectfully submitted,

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